

Name(s) of Risk Team Members: P. Cirnigliaro, A. Etkin, R. Karol, E. Lessard, J. Maraviglia, D. Passarello, A. Piper, R. Savage, J. Scott, M. Van Essendelft			Point Value → Parameter ↓		1		2		3		4		5			
Area/Facility Description Title: Collider-Accelerator Department Area/Facility # (if applicable): Area-Wide			Occupancy or Use		≤once/year		≤once/month		≤once/week		≤once/shift		>once/shift			
Area/Facility Description: Area-Wide Accelerator			Severity		First Aid Only		Medical Treatment		Lost Time		Partial Disability		Death or Permanent Disability			
			Likelihood		Impossible		Unlikely		Possible		Probable		Multiple			
Approved by: <i>E. Lessard</i> Date: 5-6-04 Rev.#: 0										Comments:						
				Reason for Revision (if applicable):												
				Before Additional Controls								After Additional Controls				
Physical Item or Activity	Hazard(s)	Control(s)	Occupancy A	Severity B	Likelihood C	Risk* AxBxC	Control(s) Added to Reduce Risk				Occupancy A	Severity B	Likelihood C	Risk* AxBxC	% Risk Reduction	
Radiation	See Facility-Wide Radiation Evaluation	See Facility-Wide Radiation Evaluation														
Electrical	See Facility-Wide Electrical Evaluation	See Facility-Wide Electrical Evaluation														
Material Handling	See Facility-Wide Material Handling Evaluation	See Facility-Wide Material Handling Evaluation														
Housekeeping	See Facility-Wide Housekeeping Evaluation	See Facility-Wide Housekeeping Evaluation														
Fire	See Facility-Wide Fire Evaluation	See Facility-Wide Fire Evaluation														
ODH	See Facility-Wide ODH Evaluation	See Facility-Wide ODH Evaluation														
Water	Pressure	Postings, maintenance, PPE, training, work planning, ASSRC review, procedures, Tier 1 inspections, PLC monitoring and interlocks	4	3	2	24										
Water	Temperature	Postings, maintenance, PPE, training, work planning, ASSRC review, procedures, Tier 1 inspections	4	3	2	24										
Cryogenic	Pressure	Postings, maintenance, training, work planning, LOTO, Cryogenic Safety Committee /ASSRC reviews, procedures, PPE, interlock systems, Tier one inspection, pressure testing	4	4	2	32										
Cryogenic	Low temperature	Postings, maintenance, training, work planning, LOTO, Cryogenic Safety Committee /ASSRC reviews, procedures, PPE, interlock systems, Tier 1 inspection	4	3	2	24										
Cryogenic	ODH	Postings, maintenance, training, work planning, LOTO, Cryogenic Safety Committee /ASSRC reviews, procedures, PPE, interlock systems, Tier 1 inspection, interlock testing	4	5	2	40										
Pressurized Systems	Flying debris	Postings, PPE, maintenance, training, work planning, Cryogenic Safety Committee /ASSRC reviews, procedures, interlock systems, Certification/testing of pressure related equipment, Tier 1 inspections, LOTO, C-AD Chief ME reviews, codes and standards usage	5	3	3	45										

Pressurized Systems	High pressure gas	Postings, PPE, maintenance, training, work planning, Cryogenic Safety Committee /ASSRC reviews, procedures, interlock systems, Certification/testing of pressure related equipment, Tier 1 inspections, LOTO, C-AD Chief ME reviews, codes and standards usage	5	3	3	45					
Vacuum	Ear damage	Postings, PPE, maintenance, training, work planning, ASSRC reviews, procedures, Tier 1 inspections, Chief ME reviews, vacuum windows covered during handling, use of industry standards, design reviews	4	4	2	32					
Vacuum	Flying debris	Postings, PPE, maintenance, training, work planning, ASSRC reviews, procedures, Tier 1 inspections, Chief ME reviews, vacuum windows covered during handling, , use of industry standards, design reviews	4	4	2	32					
Work at heights	Falls	Postings, barriers, fall protection, maintenance, training, work planning, procedures, Tier 1 inspections, PPE, approved scaffolding and platforms, approved ladders, anti-slip surfaces	3	5	3	45					
Thermal Extremes	Burns, frostbite, fire, explosions	Postings, barriers, maintenance, training, work planning, PPE, procedures, Tier 1 inspections, design reviews, ASSRC reviews	4	2	2	16					
RF	Thermal exposure	Postings, maintenance, training, work planning, ASSRC reviews, procedures, interlock systems, Tier 1 inspections, RF gaskets	2	4	2	16					
Lasers	Thermal and eye damage	Barriers, interlock systems, postings, training, LSO review, work planning, PPE, procedures, Tier 1 inspections, warning systems	4	4	2	32					
Magnetic Field	Adverse mechanical force exerted on ferromagnetic objects and or to electronic/medical implants.	Barriers, warning systems, postings, training, ASSRC review, work planning, procedures, Tier 1 inspections, magnetic safety reviews, medical exams	5	4	2	40					
Remotely Operated Equipment	Personnel entanglement in mechanisms.	Postings, barriers, guards, maintenance, training, work planning, procedures, Tier 1 inspections, ASSRC reviews	2	3	2	12					
Chemicals	Personnel exposure, fire, explosions, reactive metals	Postings, barriers, PPE, maintenance, training, work planning, procedures, Tier 1 inspections, CMS, MSDS	3	2	2	12					
Confined Spaces	Entrapment, engulfment, exposure to dangerous atmospheres.	Barriers, postings, training, Confined Spaces Permits, work planning, procedures, Tier 1 inspections	2	5	2	20					
Further Description of Controls Added to Reduce Risk:											
*Risk:	0 to 20	21 to 40	41-60				61 to 80			81 or greater	
	Negligible	Acceptable	Moderate				Substantial			Intolerable	